LOCKING SYSTEM FOR A PORTABLE COMPUTER

BACKGROUND OF THE INVENTION

The present invention relates generally to a computing device. More particularly, the present invention relates to a locking system for use in a computing device.

Portable computers generally consist of a lid for housing a display screen and a base for carrying various internal and external components used for operating the portable computer. By way of example, the internal components may be a modem, a processor, a disk drive, memory and the like, and the external components may be a keyboard, a track pad, various buttons and the like. In most cases, the lid is hinged to the base so as to move the lid between a closed position, placing the lid against the base, and an open position, exposing the display screen and some of the external components such as the keyboard.

Most portable computers require that the lid be securely attached to the base for transportation. As such, a locking mechanism is generally provided to secure the lid to the base when the lid is in the closed position. The locking mechanism typically includes a protruding hook, which extends from the lid and which is configured for lockably engaging the base when the lid is in the closed position. The locking mechanism may also include a slide knob for slidably releasing the latch from the base so as to place the lid in the open position. By way of example, the latch may be configured to slide between an unlocked position, releasing the latch from the base, and a locked position, securing the latch to the base.

Unfortunately, in most portable computers, the latch extends or protrudes from the sides of the lid. Protrusions are not only unsightly, but also potentially dangerous. A protruding latch may result in the latches being accidentally sheared off when it comes into contact with some other object. Also, if the latch is accidentally slammed on a finger, or if the latch hooks on clothing, it can cause injury or damage, leaving a negative impression on the user. Furthermore, the release knob may be difficult to use, i.e., it generally requires two hands to operate.

Therefore, what is desired is a locking system that is easy to use, aesthetically pleasing, i.e., hidden from sight, and/or a locking mechanism that does not protrude from the portable computer when the lid is open.

SUMMARY OF THE INVENTION

The invention relates, in one embodiment, to a computer device. The computer device includes a base and a lid that is movable relative to the base. The computer device also includes a magnetic system for helping secure the lid relative to the base. In most embodiments, the magnetic system includes a magnetically actuated latch that is drawn into engagement with a portion of the base or the lid to secure the lid relative to the base.

The invention relates, in another embodiment, to a portable computer. The portable computer includes a base. The portable computer further includes a lid pivotally mounted to the base. The lid is movable between a closed position having the lid substantially flush with the base, and an open position having the lid away from the base. The portable computer also includes a securing system that holds the lid relative to the base when the lid is in the closed position. The securing system includes a base side locking mechanism and a lid side locking mechanism that are magnetically attracted to one another such that they lockably engage each other when the lid is positioned proximate the base.

The invention relates, in another embodiment, to a portable computer. The portable computer includes a base having a catch disposed therein. The catch is movable relative to the base. The portable computer further includes a lid pivotally mounted to the base. The lid is movable between a closed position, placing the lid substantially flush with the base, and an open position, placing the lid away from the base. The lid has a retractable latch disposed therein that is movable relative to the base. The retractable latch automatically moves between a first latch position, hiding the latch within the lid when the lid is moved to the open position, and a second latch position, engaging the catch when the lid is moved to the closed position. The catch moves between a first catch position, engaging the latch to prevent movement of the lid relative to the base, and a second catch position, releasing the latch therefrom to permit movement of the lid relative to the base.

The invention relates, in another embodiment, to a portable computer. The portable computer includes a base. The portable computer further includes a lid pivotally mounted to the base. The lid is movable between a closed position having the lid substantially flush with the base, and an open position having the lid away from the base. The portable computer also includes a securing system having a base side locking mechanism, a lid side locking mechanism and a button. The base side locking mechanism and a lid side locking mechanism are configured for engaging each other so as to hold the lid relative to the base when the lid is in the closed position. The button is configured for disengaging the base side locking mechanism and the lid side locking mechanism from one another so as to release the lid from the base.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention may best be understood by reference to the following description taken in conjunction with the accompanying drawings in which:

FIG. **1** is a perspective diagram of a portable computer, in accordance with one embodiment of the present invention.

FIG. **2** is a perspective diagram of a portable computer in a partially open position, in accordance with one embodiment of the present invention.

FIG. **3** is a perspective diagram of a portable computer in a closed open position, in accordance with one embodiment of the present invention.

FIG. **4** is a partial cut away side elevation view, in cross section, of the portable computer in a closed position, in accordance with one embodiment of the present invention.

FIG. **5** is a partial cut away front view, in cross section of the portable computer in a closed position, in accordance with one embodiment of the present invention.

FIG. **6** is a partial cut away side elevation view, in cross section, of the portable computer in an open position, in accordance with one embodiment of the present invention.

FIG. **7** is a partial cut away front view, in cross section of the portable computer in an open position, in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

The invention generally pertains to a portable computer having a base and a lid. More particularly, the invention